



SEQUENCE LISTING

<110> Cahoon, Rebecca E  
Miao, Gou-Hau  
Powell, Wayne

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<141> 2001-06-04

<150> 60/099,521

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<212> PRT

<213> Zea mays

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 <213> Oryza sativa

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 <213> Oryza sativa

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 Arg Glu Val Met Asp Tyr Phe Arg Ala Leu Tyr Phe Ala Gly Glu Arg  
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 Ser Val Arg Ala Leu His Leu Thr Ala Glu Val Ile Asp Leu Asn Pro  
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 Gly Asn Tyr Thr Val Trp His Phe Arg Arg Leu Val Leu Glu Ala Leu  
 85 90 95

Asp Ala Asp Leu Arg Glu Glu Met Asp Phe Val Asp Arg Ile Ala Glu  
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 Glu Lys Leu Gly Pro Asp Ile Ala Asn Lys Glu His Glu Phe Thr Arg  
 130 135 140  
 Lys Ile Leu Ser Met Asp Ala Lys Asn Tyr His Ala Trp Ser His Arg  
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 Cys Asn Gln Leu Leu Glu Glu Asp Val Phe Asn Asn Ser Ala Trp Asn  
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<212> DNA

<213> Glycine max

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Glu Val Met Asp Tyr Phe Arg Ala Val Tyr Leu Thr Asp Glu Arg Ser
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Pro Arg Ala Leu Ala Leu Thr Ala Glu Ala Val Gln Phe Asn Ser Gly
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Asn Tyr Thr Val Trp His Phe Arg Arg Leu Leu Leu Glu Ser Leu Lys
      85              90              95

Val Asp Leu Asn Asp Glu Leu Asp Phe Val Glu Arg Met Ala Ala Gly
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Asn Ser Lys Asn Tyr Gln Met Trp His His Arg Arg Trp Val Ala Glu
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Lys Leu Gly Pro Glu Ala Arg Asn Asn Glu Leu Glu Phe Thr Lys Lys
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Ile Leu Ser Val Asp Ala Lys His Tyr His Ala Trp Ser His Arg Gln
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Glu Val Leu Tyr Thr Ile Glu Ala Ile Ile Ala Tyr Pro Glu Asn Glu  
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Leu Lys Thr Ala Asp Met Asp Lys Gln Asp Leu Asp Asp Asp Glu Lys  
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Gly Glu Gln Gln Asn Leu Asn Ile Ala Arg Asn Ile Cys Ser Ile Leu  
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<213> Triticum aestivum

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Cys	Val	Phe	Ala	Leu	Ser	Phe	Leu	Leu	Asp	Leu	Leu	Arg	Met	Gly	Leu	
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Gln	Pro	Ser	Asn	Glu	Leu	Lys	Gly	Thr	Ile	Glu	Ala	Met	Glu	Asn	Ser	
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Thr Thr Leu Ser Ser  
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Gln	His	Ile	Glu	Tyr	Leu	Thr	Pro	Gly	Leu	Arg	His	Met	Gly	Pro	Ala	65	70	75	80
Phe	His	Val	Leu	Asp	Ala	Asn	Arg	Pro	Trp	Leu	Cys	Tyr	Trp	Met	Val	85	90	95	
His	Pro	Leu	Ala	Leu	Leu	Asp	Glu	Ala	Leu	Asp	Asp	Asp	Leu	Glu	Asn	100	105	110	
Asp	Ile	Ile	Asp	Phe	Leu	Ala	Arg	Cys	Gln	Asp	Lys	Asp	Gly	Gly	Tyr	115	120	125	
Ser	Gly	Gly	Pro	Gly	Gln	Leu	Pro	His	Leu	Ala	Thr	Thr	Tyr	Ala	Ala	130	135	140	
Val	Asn	Thr	Leu	Val	Thr	Ile	Gly	Ser	Glu	Arg	Ala	Leu	Ser	Ser	Ile	145	150	155	160
Asn	Arg	Gly	Asn	Leu	Tyr	Asn	Phe	Met	Leu	Gln	Met	Lys	Asp	Val	Ser	165	170	175	
Gly	Ala	Phe	Arg	Met	His	Asp	Gly	Gly	Glu	Ile	Asp	Val	Arg	Ala	Ser	180	185	190	
Tyr	Thr	Ala	Ile	Ser	Val	Ala	Ser	Leu	Val	Asn	Ile	Leu	Asp	Phe	Lys	195	200	205	
Leu	Ala	Lys	Gly	Val	Gly	Asp	Tyr	Ile	Ala	Arg	Cys	Gln	Thr	Tyr	Glu	210	215	220	
Gly	Gly	Ile	Ala	Gly	Glu	Pro	Tyr	Ala	Glu	Ala	His	Gly	Gly	Tyr	Thr	225	230	235	240
Phe	Cys	Gly	Leu	Ala	Ala	Leu	Ile	Leu	Leu	Asn	Glu	Ala	Glu	Lys	Val	245	250	255	
Asp	Leu	Pro	Ser	Leu	Ile	Gly	Trp	Val	Ala	Phe	Arg	Gln	Gly	Val	Glu	260	265	270	
Cys	Gly	Phe	Gln	Gly	Arg	Thr	Asn	Lys	Leu	Val	Asp	Gly	Cys	Tyr	Ser	275	280	285	
Phe	Trp	Gln	Gly	Ala	Ala	Ile	Ala	Phe	Thr	Gln	Lys	Leu	Ile	Thr	Ile	290	295	300	
Val	Asp	Lys	Gln	Leu	Lys	Ser	Ser	Tyr	Ser	Cys	Lys	Arg	Pro	Ser	Gly	305	310	315	320
Glu	Asp	Ala	Cys	Ser	Thr	Ser	Ser	Tyr	Gly	Cys	Thr	Ala	Lys	Lys	Ser	325	330	335	
Ser	Ser	Ala	Val	Asp	Tyr	Ala	Lys	Phe	Gly	Phe	Asp	Phe	Ile	Gln	Gln	340	345	350	
Ser	Asn	Gln	Ile	Gly	Pro	Leu	Phe	His	Asn	Ile	Ala	Leu	Gln	Gln	Tyr	355	360	365	

Ile Leu Leu Cys Ser Gln Val Leu Glu Gly Gly Leu Arg Asp Lys Pro  
 370 375 380

Gly Lys Asn Arg Asp His Tyr His Ser Cys Tyr Cys Leu Ser Gly Leu  
 385 390 395 400

Ala Val Ser Gln Tyr Ser Ala Met Thr Asp Thr Gly Ser Cys Pro Leu  
 405 410 415

Pro Gln His Val Leu Gly Pro Tyr Ser Asn Leu Leu Glu Pro Ile His  
 420 425 430

Pro Leu Tyr Asn Val Val Leu Asp Lys Tyr His Thr Ala Tyr Glu Phe  
 435 440 445

Phe Ser Glu Glu  
 450

<210> 13  
 <211> 1031  
 <212> DNA  
 <213> Oryza sativa

<400> 13  
 gcacgagggc gtagccgcct ttcggtgaga tccccgcggc tgcagcgagc tgcgaggccg 60  
 ccgccttccg cgccgcgcgac caccgcgccc atggaccccc cctcgccgcc gccgcgcgcg 120  
 ccatactctc ctgctgctgc tgaggcggt ccggcagcgg atagccaggc cgctgagctg 180  
 ccccggtgta ctgtgacgca ggtggagcag atgaagggtg aggcgaagggt gggcgaaatc 240  
 taccgcgtcc tcttcggcaa cgcgcccaac gccaatccc tcatgttaga gctgtggcgt 300  
 gagcagcatg ttgagtattt gacgagaggg ctgaaacatc ttggaccaag cttccatgtg 360  
 ctcgatgcca atcgacctg gctgtgctac tggattattc atgcacttgc tctgttggat 420  
 gaaataacctg acgatgttga ggatgatatt gtggacttct tatctcgatg tcaggacaaa 480  
 gatggtggtt atggcggagg acctggacag ttgcctcatc tcgctacaac ttatgctgct 540  
 gtaaatacac ttgtaactat agggagtga agggcactat catcggtaaa cagggacaac 600  
 ctgtacaagt tcatgcttcg gatgaaagat acatcgggag ctttcagaat gcatgatggt 660  
 ggtgaaatag atgttcgtgc tagctatact gcaatatcgg ttgccagcct tgtgaacatt 720  
 cttgatggtg aactagcaaa aggtgttga aattacataa caaggtgtca aacctatgaa 780  
 ggtggcattg ctggggaacc gtatgtgaa gctcatggtg ggtacacttt ttgtgggctg 840  
 gctacgatga tcttgcttaa cgaagtggac aaacttgatt tggctagctt gattggctgg 900  
 gtggcatttc gccaaaggag ggaatgtgga tttcaaggac gaactaataa attggttgat 960  
 gggtgctact ctttttgga gggagctgct cttgctttaa ctgttcaccg cgtggcgccg 1020  
 actgccaaac g 1031

<210> 14  
 <211> 313  
 <212> PRT  
 <213> Oryza sativa

<400> 14  
 Met Asp Pro Pro Ser Pro Pro Pro Pro Pro Tyr Pro Pro Ala Ala  
 1 5 10 15

Ala Glu Gly Gly Pro Ala Ala Asp Ser Gln Ala Ala Glu Leu Pro Arg  
 20 25 30

Leu Thr Val Thr Gln Val Glu Gln Met Lys Val Glu Ala Lys Val Gly  
 35 40 45

Glu Ile Tyr Arg Val Leu Phe Gly Asn Ala Pro Asn Ala Asn Ser Leu  
 50 55 60  
 Met Leu Glu Leu Trp Arg Glu Gln His Val Glu Tyr Leu Thr Arg Gly  
 65 70 75 80  
 Leu Lys His Leu Gly Pro Ser Phe His Val Leu Asp Ala Asn Arg Pro  
 85 90 95  
 Trp Leu Cys Tyr Trp Ile Ile His Ala Leu Ala Leu Leu Asp Glu Ile  
 100 105 110  
 Pro Asp Asp Val Glu Asp Asp Ile Val Asp Phe Leu Ser Arg Cys Gln  
 115 120 125  
 Asp Lys Asp Gly Gly Tyr Gly Gly Gly Pro Gly Gln Leu Pro His Leu  
 130 135 140  
 Ala Thr Thr Tyr Ala Ala Val Asn Thr Leu Val Thr Ile Gly Ser Glu  
 145 150 155 160  
 Arg Ala Leu Ser Ser Val Asn Arg Asp Asn Leu Tyr Lys Phe Met Leu  
 165 170 175  
 Arg Met Lys Asp Thr Ser Gly Ala Phe Arg Met His Asp Gly Gly Glu  
 180 185 190  
 Ile Asp Val Arg Ala Ser Tyr Thr Ala Ile Ser Val Ala Ser Leu Val  
 195 200 205  
 Asn Ile Leu Asp Gly Glu Leu Ala Lys Gly Val Gly Asn Tyr Ile Thr  
 210 215 220  
 Arg Cys Gln Thr Tyr Glu Gly Gly Ile Ala Gly Glu Pro Tyr Ala Glu  
 225 230 235 240  
 Ala His Gly Gly Tyr Thr Phe Cys Gly Leu Ala Thr Met Ile Leu Leu  
 245 250 255  
 Asn Glu Val Asp Lys Leu Asp Leu Ala Ser Leu Ile Gly Trp Val Ala  
 260 265 270  
 Phe Arg Gln Gly Val Glu Cys Gly Phe Gln Gly Arg Thr Asn Lys Leu  
 275 280 285  
 Val Asp Gly Cys Tyr Ser Phe Trp Gln Gly Ala Ala Leu Ala Leu Thr  
 290 295 300  
 Val His Arg Val Ala Pro Thr Ala Lys  
 305 310

<210> 15

<211> 1504

<212> DNA

<213> Glycine max

<400> 15

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gcacgaggac aaatccgccc cgcgcgcgc cgtgtccgac ggtgagtcaa cgtgagcaat 60
ggatggtaga gtcgcagggt tttcagattt accaactctt cgccaccatt cctcgcaacg 120
cccaaaccct catgttggag cttcaacgog ataatacat gcagtatgtc tccaaaggcc 180
ttcgccatct cagttccgca ttttccgttt tggacgctaa tcgaccctgg ctctgctact 240
ggatcttcca ctccattgct ttgtcgggag aatccgtcga tgatgaactc gaagataacg 300
ctatcgattt tcttaaccgt tgccaggatc cgaatgggtg atatgccggg ggaccaggcc 360
agatgcctca tattgccaca acttatgctg ctgttaattc acttattact ttgggtggtg 420
agaaatccct ggcatacaatt aatagagata aactgtatgg gtttctgcgg cggatgaagc 480
aaccaaatgg tggattcagg atgcatgatg aagggtgaaat tgatgttoga gcttgctaca 540
ctgccatttc tgttgcaagt gttttgaaca ttttgatga tgagctgatc cagaatgttg 600
gagactacat tataagctgt caaacatatg aggggtggcat tgctgggtgag cctgggttctg 660
aggctcatgg tgggtacacc ttttgggat tagctacaat gattctgatt ggtgaggtta 720
atcacttggg tctgcctcga ttagttgact ggggtgtatt ccgacaagggt aaggaatgtg 780
gattccaggg gagaacaaat aaactgggtg atggatgcta ttcttttgg cagggagggtg 840
ctgttgctct attgcaaaga ttatcttcta ttatcaacaa acagatggaa gagacatcac 900
agatttttgc ggtatcttat gtatctgaag caaaagaaaag tttggatgga acctctagtc 960
atgcaacatg ccgtgggtgag catgaaggca ccagtgaatc cagttcatct gattttaaaa 1020
atattgccta taaatttatt aatgagtggg gagcacaaga accacttttt cacagtattg 1080
ctttacagca atatattctc ttatgtgcac aggagcaaga ggggtggactg agagacaaac 1140
cgggtaaacg tagagatcat tatcacacat gttactgttt aagtggactc tcattgtgcc 1200
agtatagttg gtcaaagcac ccagattctc caccactgcc taatctagta ttaggcccct 1260
actctaattc cttagaacca atccaccccc tctttaatgt tgtcttggga cgatatcgtg 1320
aagctcatga attcttcttt actgagtcgt gaccactggg tttagctacc aacaacttta 1380
tttgataaat gtaaaataaa ttcattggaa catataaatg taaaacagca ttggattaaa 1440
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500
aaaaa 1504
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<210> 16

<211> 429

<212> PRT

<213> Glycine max

<400> 16

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Met Val Glu Ser Gln Val Phe Gln Ile Tyr Gln Leu Phe Ala Thr Ile
  1              5              10              15

Pro Arg Asn Ala Gln Thr Leu Met Leu Glu Leu Gln Arg Asp Asn His
      20              25              30

Met Gln Tyr Val Ser Lys Gly Leu Arg His Leu Ser Ser Ala Phe Ser
      35              40              45

Val Leu Asp Ala Asn Arg Pro Trp Leu Cys Tyr Trp Ile Phe His Ser
      50              55              60

Ile Ala Leu Ser Gly Glu Ser Val Asp Asp Glu Leu Glu Asp Asn Ala
      65              70              75              80

Ile Asp Phe Leu Asn Arg Cys Gln Asp Pro Asn Gly Gly Tyr Ala Gly
      85              90              95

Gly Pro Gly Gln Met Pro His Ile Ala Thr Thr Tyr Ala Ala Val Asn
      100              105              110

Ser Leu Ile Thr Leu Gly Gly Glu Lys Ser Leu Ala Ser Ile Asn Arg
      115              120              125
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Asp Lys Leu Tyr Gly Phe Leu Arg Arg Met Lys Gln Pro Asn Gly Gly  
 130 135 140  
 Phe Arg Met His Asp Glu Gly Glu Ile Asp Val Arg Ala Cys Tyr Thr  
 145 150 155 160  
 Ala Ile Ser Val Ala Ser Val Leu Asn Ile Leu Asp Asp Glu Leu Ile  
 165 170 175  
 Gln Asn Val Gly Asp Tyr Ile Ile Ser Cys Gln Thr Tyr Glu Gly Gly  
 180 185 190  
 Ile Ala Gly Glu Pro Gly Ser Glu Ala His Gly Gly Tyr Thr Phe Cys  
 195 200 205  
 Gly Leu Ala Thr Met Ile Leu Ile Gly Glu Val Asn His Leu Asp Leu  
 210 215 220  
 Pro Arg Leu Val Asp Trp Val Val Phe Arg Gln Gly Lys Glu Cys Gly  
 225 230 235 240  
 Phe Gln Gly Arg Thr Asn Lys Leu Val Asp Gly Cys Tyr Ser Phe Trp  
 245 250 255  
 Gln Gly Gly Ala Val Ala Leu Leu Gln Arg Leu Ser Ser Ile Ile Asn  
 260 265 270  
 Lys Gln Met Glu Glu Thr Ser Gln Ile Phe Ala Val Ser Tyr Val Ser  
 275 280 285  
 Glu Ala Lys Glu Ser Leu Asp Gly Thr Ser Ser His Ala Thr Cys Arg  
 290 295 300  
 Gly Glu His Glu Gly Thr Ser Glu Ser Ser Ser Ser Asp Phe Lys Asn  
 305 310 315 320  
 Ile Ala Tyr Lys Phe Ile Asn Glu Trp Arg Ala Gln Glu Pro Leu Phe  
 325 330 335  
 His Ser Ile Ala Leu Gln Gln Tyr Ile Leu Leu Cys Ala Gln Glu Gln  
 340 345 350  
 Glu Gly Gly Leu Arg Asp Lys Pro Gly Lys Arg Arg Asp His Tyr His  
 355 360 365  
 Thr Cys Tyr Cys Leu Ser Gly Leu Ser Leu Cys Gln Tyr Ser Trp Ser  
 370 375 380  
 Lys His Pro Asp Ser Pro Pro Leu Pro Asn Leu Val Leu Gly Pro Tyr  
 385 390 395 400  
 Ser Asn Leu Leu Glu Pro Ile His Pro Leu Phe Asn Val Val Leu Gly  
 405 410 415  
 Arg Tyr Arg Glu Ala His Glu Phe Phe Thr Glu Ser  
 420 425

<210> 17  
<211> 533  
<212> DNA  
<213> Glycine max

<220>  
<221> unsure  
<222> (499)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (525)  
<223> n = A, C, G or T

<400> 17  
gagagagata cgaatccggc ggccggcgcca ccgtgtccga cggtagtca acgggaccag 60  
tggatggtag agtcgcaggt gtttcagatt taccaactct ttgccaccat tcctggcagc 120  
gccccaaacc tcatgttaga gctgcaacgc gataatcaca tgcagtatct ctccaaaggc 180  
ctacgccatc tcagttccgc gttttctgtc ttggacgcta atcgaccctg gctctgttac 240  
tggatcttcc attccattgc tttgctggga gaatccgtcg acgacgaact cgaagataac 300  
actatcgatt ttcttaaccg ttgccaggat ccgaatggtg gatatgctgg gggaccaggc 360  
cagatgcctc acattgccac aacatatgct gcagttaata cacttattac tttgggtggt 420  
cagaaatcct ggcatacaatt aatagggtgag ataaactgta tgggtttctg cggcggatga 480  
agcaatcaaa tggggggant caagatgcat gatgaaagga gaaanttgat gtc 533

<210> 18  
<211> 141  
<212> PRT  
<213> Glycine max

<400> 18  
Asp Thr Asn Pro Ala Ala Ala Pro Pro Cys Pro Thr Val Ser Gln Arg  
1 5 10 15  
Asp Gln Trp Met Val Glu Ser Gln Val Phe Gln Ile Tyr Gln Leu Phe  
20 25 30  
Ala Thr Ile Pro Gly Ser Ala Gln Asn Leu Met Leu Glu Leu Gln Arg  
35 40 45  
Asp Asn His Met Gln Tyr Leu Ser Lys Gly Leu Arg His Leu Ser Ser  
50 55 60  
Ala Phe Ser Val Leu Asp Ala Asn Arg Pro Trp Leu Cys Tyr Trp Ile  
65 70 75 80  
Phe His Ser Ile Ala Leu Leu Gly Glu Ser Val Asp Asp Glu Leu Glu  
85 90 95  
Asp Asn Thr Ile Asp Phe Leu Asn Arg Cys Gln Asp Pro Asn Gly Gly  
100 105 110  
Tyr Ala Gly Gly Pro Gly Gln Met Pro His Ile Ala Thr Thr Tyr Ala  
115 120 125



Ala Val Asn Thr Leu Ile Thr Leu Gly Gly Gln Lys Ser  
 130 135 140

<210> 19  
 <211> 333  
 <212> PRT  
 <213> Pisum sativum

<400> 19  
 Met Ala Gly Asn Ile Glu Val Glu Glu Asp Asp Arg Val Pro Leu Arg  
 1 5 10 15

Leu Arg Pro Glu Trp Ser Asp Val Thr Pro Ile Pro Gln Asp Asp Gly  
 20 25 30

Pro Ser Pro Val Val Pro Ile Asn Tyr Ser Glu Glu Phe Ser Glu Val  
 35 40 45

Met Asp Tyr Phe Arg Ala Val Tyr Phe Ala Lys Glu Leu Ser Ser Arg  
 50 55 60

Ala Leu Ala Leu Thr Ala Glu Ala Ile Gly Leu Asn Ala Gly Asn Tyr  
 65 70 75 80

Thr Val Trp His Phe Arg Arg Leu Leu Leu Glu Ser Leu Lys Val Asp  
 85 90 95

Leu His Val Glu Arg Glu Phe Val Glu Arg Val Ala Ser Gly Asn Ser  
 100 105 110

Lys Asn Tyr Gln Ile Trp His His Arg Arg Trp Val Ala Glu Lys Leu  
 115 120 125

Gly Pro Glu Ala Arg Asn Ser Glu Leu Glu Phe Thr Lys Lys Ile Leu  
 130 135 140

Ser Val Asp Ala Lys His Tyr His Ala Trp Ser His Arg Gln Trp Val  
 145 150 155 160

Leu Gln Asn Leu Gly Gly Trp Glu Asp Glu Leu Ser Tyr Cys Ser Glu  
 165 170 175

Leu Leu Ala Glu Asp Ile Phe Asn Asn Ser Ala Trp Asn Gln Arg Tyr  
 180 185 190

Phe Val Ile Thr Arg Ser Pro Val Leu Gly Gly Leu Lys Ala Met Arg  
 195 200 205

Glu Ser Glu Val Leu Phe Thr Val Glu Ala Ile Ile Ser Tyr Pro Glu  
 210 215 220

Asn Glu Ser Ser Trp Arg Tyr Leu Arg Gly Leu Phe Lys Asp Glu Ser  
 225 230 235 240

Thr Leu Tyr Val Asn Asp Ala Gln Val Ser Ser Leu Cys Leu Lys Ile  
 245 250 255

Leu Lys Thr Lys Ser Asn Tyr Leu Phe Ala Leu Ser Thr Leu Leu Asp  
260 265 270

Leu Ser Ala Ser Val Ile Gln Pro Asn Glu Asp Phe Arg Asp Ala Ile  
275 280 285

Glu Ala Leu Arg Leu Gln Ile Leu Ile Lys Gln Asp Ser Asp Ile Ala  
290 295 300

Ile Thr Ile Cys Ser Ile Leu Glu Gln Val Asp Pro Ile Arg Val Asn  
305 310 315 320

Tyr Trp Val Trp Arg Lys Ser Arg Leu Pro Gln Ala Ala  
325 330

<210> 20

<211> 326

<212> PRT

<213> Arabidopsis thaliana

<400> 20

Met Asn Phe Asp Glu Thr Val Pro Leu Ser Gln Arg Leu Glu Trp Ser  
1 5 10 15

Asp Val Val Pro Leu Thr Gln Asp Asp Gly Pro Asn Pro Val Val Pro  
20 25 30

Ile Ala Tyr Lys Glu Glu Phe Arg Glu Thr Met Asp Tyr Phe Arg Ala  
35 40 45

Ile Tyr Phe Ser Asp Glu Arg Ser Pro Arg Ala Leu Arg Leu Thr Glu  
50 55 60

Glu Thr Leu Leu Leu Asn Ser Gly Asn Tyr Thr Val Trp His Phe Arg  
65 70 75 80

Arg Leu Val Leu Glu Ala Leu Asn His Asp Leu Phe Glu Glu Leu Glu  
85 90 95

Phe Ile Glu Arg Ile Ala Glu Asp Asn Ser Lys Asn Tyr Gln Leu Trp  
100 105 110

His His Arg Arg Trp Val Ala Glu Lys Leu Gly Pro Asp Val Ala Gly  
115 120 125

Arg Glu Leu Glu Phe Thr Arg Arg Val Leu Ser Leu Asp Ala Lys His  
130 135 140

Tyr His Ala Trp Ser His Arg Gln Trp Thr Leu Arg Ala Leu Gly Gly  
145 150 155 160

Trp Glu Asp Glu Leu Asp Tyr Cys His Glu Leu Leu Glu Ala Asp Val  
165 170 175

Phe Asn Asn Ser Ala Trp Asn Gln Arg Tyr Tyr Val Ile Thr Gln Ser  
180 185 190

Pro Leu Leu Gly Gly Leu Glu Ala Met Arg Glu Ser Glu Val Ser Tyr  
195 200 205

Thr Ile Lys Ala Ile Leu Thr Asn Pro Ala Asn Glu Ser Ser Trp Arg  
210 215 220

Tyr Leu Lys Ala Leu Tyr Lys Asp Asp Lys Glu Ser Trp Ile Ser Asp  
225 230 235 240

Pro Ser Val Ser Ser Val Cys Leu Asn Val Leu Ser Arg Thr Asp Cys  
245 250 255

Phe His Gly Phe Ala Leu Ser Thr Leu Leu Asp Leu Leu Cys Asp Gly  
260 265 270

Leu Arg Pro Thr Asn Glu His Lys Asp Ser Val Arg Ala Leu Ala Asn  
275 280 285

Glu Glu Pro Glu Thr Asn Leu Ala Asn Leu Val Cys Thr Ile Leu Gly  
290 295 300

Arg Val Asp Pro Ile Arg Ala Asn Tyr Trp Ala Trp Arg Lys Ser Lys  
305 310 315 320

Ile Thr Val Ala Ala Ile  
325

<210> 21

<211> 470

<212> PRT

<213> Lycopersicon esculentum

<400> 21

Met Glu Ser Arg Lys Val Thr Lys Thr Leu Glu Asp Gln Trp Val Val  
1 5 10 15

Glu Arg Arg Val Arg Glu Ile Tyr Asp Tyr Phe Tyr Ser Ile Ser Pro  
20 25 30

Asn Ser Pro Ser Asp Leu Ile Glu Ile Glu Arg Asp Lys His Phe Gly  
35 40 45

Tyr Leu Ser Gln Gly Leu Arg Lys Leu Gly Pro Ser Phe Ser Val Leu  
50 55 60

Asp Ala Ser Arg Pro Trp Leu Cys Tyr Trp Thr Leu His Ser Ile Ala  
65 70 75 80

Leu Leu Gly Glu Ser Ile Gly Gly Lys Leu Glu Asn Asp Ala Ile Asp  
85 90 95

Phe Leu Thr Arg Cys Gln Asp Lys Asp Gly Gly Tyr Gly Gly Gly Pro  
100 105 110

Gly Gln Met Pro His Leu Ala Thr Thr Tyr Ala Ala Val Asn Ser Leu  
115 120 125

Ile	Thr	Leu	Gly	Lys	Pro	Glu	Ala	Leu	Ser	Ser	Ile	Asn	Arg	Glu	Lys	130	135	140
Leu	Tyr	Thr	Phe	Leu	Leu	Arg	Met	Lys	Asp	Ala	Ser	Gly	Gly	Phe	Arg	145	150	155
Met	His	Asp	Gly	Gly	Glu	Val	Asp	Val	Arg	Ala	Cys	Tyr	Thr	Ala	Ile	165	170	175
Ser	Val	Ala	Asn	Ile	Leu	Asn	Ile	Val	Asp	Asp	Glu	Leu	Ile	His	Gly	180	185	190
Val	Gly	Asn	Tyr	Ile	Leu	Ser	Cys	Gln	Thr	Tyr	Glu	Gly	Gly	Ile	Ala	195	200	205
Gly	Glu	Pro	Gly	Ser	Glu	Ala	His	Gly	Gly	Tyr	Thr	Phe	Cys	Gly	Leu	210	215	220
Ala	Ala	Met	Ile	Leu	Ile	Asn	Glu	Val	Asp	Arg	Leu	Asp	Leu	Pro	Gly	225	230	235
Leu	Ile	Asp	Trp	Val	Val	Phe	Arg	Gln	Gly	Val	Glu	Gly	Gly	Phe	Gln	245	250	255
Gly	Arg	Thr	Asn	Lys	Leu	Val	Asp	Gly	Cys	Tyr	Ser	Phe	Trp	Gln	Gly	260	265	270
Ala	Val	Val	Phe	Leu	Ile	Gln	Arg	Leu	Asn	Leu	Ile	Val	His	Glu	Gln	275	280	285
Leu	Gly	Leu	Ser	Asn	Asp	Leu	Ser	Thr	Glu	Ser	Ala	Asp	Asp	Ser	Ser	290	295	300
Glu	Ser	Glu	Leu	Ser	Asp	Glu	Glu	Glu	His	Leu	Glu	Gly	Ile	Ser	Ser	305	310	315
His	Val	Gln	Asp	Thr	Phe	Pro	Leu	Gly	Gln	Ala	Gly	Ala	Cys	Gln	Glu	325	330	335
Asn	Ala	Ser	His	Ser	Pro	Lys	Ile	Ala	Asp	Thr	Gly	Tyr	Glu	Phe	Ile	340	345	350
Asn	Arg	Pro	Ile	Ala	Met	Arg	Pro	Leu	Phe	Asp	Ser	Met	Tyr	Leu	Gln	355	360	365
Gln	Tyr	Val	Leu	Leu	Cys	Ser	Gln	Ile	Glu	Val	Gly	Gly	Phe	Arg	Asp	370	375	380
Lys	Pro	Gly	Lys	Gly	Arg	Asp	Tyr	Tyr	His	Thr	Cys	Tyr	Cys	Leu	Ser	385	390	395
Gly	Leu	Ser	Ile	Ala	Gln	Tyr	Ser	Trp	Thr	Asp	Glu	Ala	Asp	Ser	Thr	405	410	415
Pro	Leu	Pro	Arg	Asp	Val	Phe	Gly	Pro	Tyr	Ser	Lys	Cys	Leu	Leu	Glu	420	425	430

Gln Val His Pro Leu Phe Asn Val Val Leu Asp Arg Tyr Tyr Glu Ala  
435 440 445

Arg Glu Tyr Ser Gln Ala Cys Glu Thr Val Ser Pro Leu Ser Leu Ala  
450 455 460

Pro Thr Phe Ser Glu Thr  
465 470

<210> 22

<211> 419

<212> PRT

<213> Pisum sativum

<400> 22

Met Glu Ala Ser Thr Ala Ala Glu Thr Pro Thr Pro Thr Val Ser Gln  
1 5 10 15

Arg Asp Gln Trp Ile Val Glu Ser Gln Val Phe His Ile Tyr Gln Leu  
20 25 30

Phe Ala Asn Ile Pro Pro Asn Ala Gln Ser Ile Ile Arg Pro Trp Leu  
35 40 45

Cys Tyr Trp Ile Ile His Ser Ile Ala Leu Leu Gly Glu Ser Ile Asp  
50 55 60

Asp Asp Leu Glu Asp Asn Thr Val Asp Phe Leu Asn Arg Cys Gln Asp  
65 70 75 80

Pro Asn Gly Gly Tyr Ala Gly Gly Pro Gly Gln Met Pro His Leu Ala  
85 90 95

Thr Thr Tyr Ala Ala Val Asn Thr Leu Ile Thr Leu Gly Gly Glu Lys  
100 105 110

Ser Leu Ala Ser Ile Asn Arg Asn Lys Leu Tyr Gly Phe Met Arg Arg  
115 120 125

Met Lys Gln Pro Asn Gly Gly Phe Arg Met His Asp Glu Gly Glu Ile  
130 135 140

Asp Val Arg Ala Cys Tyr Thr Ala Ile Ser Val Ala Ser Val Leu Asn  
145 150 155 160

Ile Leu Asp Asp Glu Leu Ile Lys Asn Val Gly Asp Phe Ile Leu Ser  
165 170 175

Cys Gln Thr Tyr Glu Gly Gly Leu Ala Gly Glu Pro Gly Ser Glu Ala  
180 185 190

His Gly Gly Tyr Thr Phe Cys Gly Leu Ala Ala Met Ile Leu Ile Gly  
195 200 205

Glu Val Asn Arg Leu Asp Leu Pro Arg Leu Leu Asp Trp Val Val Phe  
210 215 220

Arg Gln Gly Lys Glu Cys Gly Phe Gln Gly Arg Thr Asn Lys Leu Val  
225 230 235 240

Asp Gly Cys Tyr Ser Phe Trp Gln Gly Gly Ala Val Ala Leu Leu Gln  
245 250 255

Arg Leu His Ser Ile Ile Asp Glu Gln Met Ala Glu Ala Ser Gln Phe  
260 265 270

Val Thr Val Ser Asp Ala Pro Glu Glu Lys Glu Cys Leu Asp Gly Thr  
275 280 285

Ser Ser His Ala Thr Ser His Ile Arg His Glu Gly Met Asn Glu Ser  
290 295 300

Cys Ser Ser Asp Val Lys Asn Ile Gly Tyr Asn Phe Ile Ser Glu Trp  
305 310 315 320

Arg Gln Ser Glu Pro Leu Phe His Ser Ile Ala Leu Gln Gln Tyr Ile  
325 330 335

Leu Leu Cys Ser Gln Glu Gln Asp Gly Gly Leu Arg Asp Lys Pro Gly  
340 345 350

Lys Arg Arg Asp His Tyr His Ser Cys Tyr Cys Leu Ser Gly Leu Ser  
355 360 365

Leu Cys Gln Tyr Ser Trp Ser Lys Arg Pro Asp Ser Pro Pro Leu Pro  
370 375 380

Lys Val Val Met Gly Pro Tyr Ser Asn Leu Leu Glu Pro Ile His Pro  
385 390 395 400

Leu Phe Asn Val Val Leu Asp Arg Tyr Arg Glu Ala His Glu Phe Phe  
405 410 415

Ser Gln Leu

<210> 23

<211> 419

<212> PRT

<213> Pisum sativum

<400> 23

Met Glu Ala Ser Thr Ala Ala Glu Thr Pro Thr Pro Thr Val Ser Gln  
1 5 10 15

Arg Asp Gln Trp Ile Val Glu Ser Gln Val Phe His Ile Tyr Gln Leu  
20 25 30

Phe Ala Asn Ile Pro Pro Asn Ala Gln Ser Ile Ile Arg Pro Trp Leu  
35 40 45

Cys Tyr Trp Ile Ile His Ser Ile Ala Leu Leu Gly Glu Ser Ile Asp  
50 55 60

Asp	Asp	Leu	Glu	Asp	Asn	Thr	Val	Asp	Phe	Leu	Asn	Arg	Cys	Gln	Asp	
65					70					75					80	
Pro	Asn	Gly	Gly	Tyr	Ala	Gly	Gly	Pro	Gly	Gln	Met	Pro	His	Leu	Ala	
				85					90					95		
Thr	Thr	Tyr	Ala	Ala	Val	Asn	Thr	Leu	Ile	Thr	Leu	Gly	Gly	Glu	Lys	
			100					105					110			
Ser	Leu	Ala	Ser	Ile	Asn	Arg	Asn	Lys	Leu	Tyr	Gly	Phe	Met	Arg	Arg	
	115						120					125				
Met	Lys	Gln	Pro	Asn	Gly	Gly	Phe	Arg	Met	His	Asp	Glu	Gly	Glu	Ile	
	130					135					140					
Asp	Val	Arg	Ala	Cys	Tyr	Thr	Ala	Ile	Ser	Val	Ala	Ser	Val	Leu	Asn	
145					150					155					160	
Ile	Leu	Asp	Asp	Glu	Leu	Ile	Lys	Asn	Val	Gly	Asp	Phe	Ile	Leu	Ser	
				165					170					175		
Cys	Gln	Thr	Tyr	Glu	Gly	Gly	Leu	Ala	Gly	Glu	Pro	Gly	Ser	Glu	Ala	
			180					185					190			
His	Gly	Gly	Tyr	Thr	Phe	Cys	Gly	Leu	Ala	Ala	Met	Ile	Leu	Ile	Gly	
	195						200					205				
Glu	Val	Asn	Arg	Leu	Asp	Leu	Pro	Arg	Leu	Leu	Asp	Trp	Val	Val	Phe	
	210					215					220					
Arg	Gln	Gly	Lys	Glu	Cys	Gly	Phe	Gln	Gly	Arg	Thr	Asn	Lys	Leu	Val	
225					230					235					240	
Asp	Gly	Cys	Tyr	Ser	Phe	Trp	Gln	Gly	Gly	Ala	Val	Ala	Leu	Leu	Gln	
				245					250					255		
Arg	Leu	His	Ser	Ile	Ile	Asp	Glu	Gln	Met	Ala	Glu	Ala	Ser	Gln	Phe	
			260					265						270		
Val	Thr	Val	Ser	Asp	Ala	Pro	Glu	Glu	Lys	Glu	Cys	Leu	Asp	Gly	Thr	
		275					280					285				
Ser	Ser	His	Ala	Thr	Ser	His	Ile	Arg	His	Glu	Gly	Met	Asn	Glu	Ser	
	290					295					300					
Cys	Ser	Ser	Asp	Val	Lys	Asn	Ile	Gly	Tyr	Asn	Phe	Ile	Ser	Glu	Trp	
305					310					315					320	
Arg	Gln	Ser	Glu	Pro	Leu	Phe	His	Ser	Ile	Ala	Leu	Gln	Gln	Tyr	Ile	
				325					330					335		
Leu	Leu	Cys	Ser	Gln	Glu	Gln	Asp	Gly	Gly	Leu	Arg	Asp	Lys	Pro	Gly	
			340					345					350			
Lys	Arg	Arg	Asp	His	Tyr	His	Ser	Cys	Tyr	Cys	Leu	Ser	Gly	Leu	Ser	
		355					360					365				

Leu Cys Gln Tyr Ser Trp Ser Lys Arg Pro Asp Ser Pro Pro Leu Pro  
370 375 380

Lys Val Val Met Gly Pro Tyr Ser Asn Leu Leu Glu Pro Ile His Pro  
385 390 395 400

Leu Phe Asn Val Val Leu Asp Arg Tyr Arg Glu Ala His Glu Phe Phe  
405 410 415

Ser Gln Leu